



Listing of Claims.

1. (Currently Amended) A downhole injection valve assembly for controlling the downhole insertion of chemical into a well through capillary tubing, said downhole injection valve assembly comprising:

an elongated tubular housing including an inlet end and an outlet end;

5 said elongated tubular housing including means for attachment to the capillary tubing at said inlet end;

a first check valve having an adjustable mechanical bias, said first check valve being positioned within said elongated tubular housing at said inlet end, said adjustable mechanical bias on said first check valve being determined by the position of a movable rod
10 within said elongated tubular housing ;

a second check valve having a fixed mechanical basis positioned within said elongated tubular housing at said outlet end to prevent the entry of gas, fluids or solids from said well bore into the interior portion of said elongated tubular housing;

an outlet port positioned between said first and second check valves.

2. (Currently Amended) The downhole injection valve assembly as defined in Claim 1 wherein said adjustable mechanical bias is set according to the characteristics of the well including the depth of the well, and the flowing bottom-hole pressure at the bottom of the well.

3. (Currently Amended) The downhole injection valve assembly as defined in Claim 2 wherein said adjustable mechanical bias is set according to the characteristics of said system for causing the chemical to flow through the capillary tubing into the well including at least chemical pump pressure, capillary tubing size, and capillary tubing length.

4. (Currently Amended) The downhole injection valve assembly as defined in Claim 1 wherein said adjustable mechanical bias is provided by a coil spring.

5. (Currently amended) The downhole injection valve assembly as defined in Claim 1 wherein said fixed mechanical bias on said second check valve is provided by a coil spring.

6. (Original) The downhole injection valve assembly as defined in Claim 1 wherein said first check valve is a ball and seat valve.

7. (Original) The downhole injection valve assembly as defined in Claim 6 wherein said seat is formed from a hardened material.

8. (Currently Amended) The downhole injection valve assembly as defined in Claim 4 wherein said adjustable mechanical bias is determined by the compression of said coil spring provided by said movable rod.

9. (Currently Amended) The downhole injection valve assembly as defined in Claim 8 wherein position of said movable rod is determined by the threaded engagement of said movable rod with a spring carrier positioned within said elongated tubular housing.

10. (Currently Amended) A system for the control of a condition at the downhole portion of a well, said system comprising:

a chemical selected for its ability to control the condition at the downhole portion of a well;

5 a capillary tube for conducting said chemical from the surface to the downhole portion of the well;

a chemical pump for causing said chemical to flow through said capillary tube;

an injection valve assembly including:

an elongated tubular housing including an inlet end and an outlet end;

10 said elongated tubular housing including means for attachment to the
capillary tubing at said inlet end;

 a first check valve having an adjustable mechanical bias, said first check
valve being positioned within said elongated tubular housing at said inlet end, said adjustable
mechanical bias on said first check valve being determined by the position of a movable rod
15 within said elongated tubular housing ;

 a second check valve having a fixed mechanical bias positioned within
said elongated tubular housing at said outlet end to prevent the entry of gas, fluids or solids from
said well bore into the interior position of said elongated tubular housing;

 an outlet port positioned between said first and second check valves.

11. (Currently Amended) The system as defined in Claim 10 wherein said adjustable
mechanical bias is set according to the characteristics of the well including the depth of the well,
and the flowing hole pressure at the bottom of the well.

12. (Currently Amended) The system as defined in Claim 11 wherein said adjustable
mechanical bias is set according to the characteristics of said system for causing the chemical to
flow through the capillary tubing into the well including chemical pump pressure.

13. (Currently Amended) The system as defined in Claim 10 wherein said adjustable
mechanical bias is provided by a coil spring.

14. (Currently Amended) The system as defined in Claim 10 wherein said fixed mechanical bias on said second check valve is provided by a coil spring.

15. (Currently Amended) The system as defined in Claim 10 wherein said first check valve is a ball and seat valve.

16. (Original) The system as defined in Claim 15 wherein said seat is formed from a hardened material.

17. (Currently Amended) The system as defined in Claim 13 wherein said adjustable mechanical bias is determined by compression of said coil spring provided by said movable rod.

18. (Currently Amended) The system as defined in Claim 17 wherein the position of said movable rod is determined by the threaded engagement of said movable rod with a spring carrier positioned within said elongated tubular housing.